IN THE CLAIMS:

Please amend claims 1 and 7, and add claims 19-29 as follows:

Claim 1 (Currently Amended): An ink jet recording apparatus comprising:

a recording head including an ink tank for storing ink, the recording head being driven and controlled based on image information so as to jet onto a recording medium ink supplied from the ink tank;

detecting means for detecting ~~the amount~~ an amount of ink remaining in the ink tank;

supply means including a main tank for storing ink, the supply means supplying ink from the main tank to the ink tank when the recording head is disposed at an ink supplying position; and

control means for controlling the supply means so that, when the remaining ~~ink amount~~ amount of ink detected by the detecting means is above a lower limit, ink is supplied during non-recording time in an amount corresponding to the amount of ink used.

Claim 2 (Original): The ink jet recording apparatus of claim 1, wherein the control means estimates, based on the image information, the amount of ink used.

Claim 3 (Original): The ink jet recording apparatus of claim 1, wherein the control means determines whether or not the amount of ink used exceeds a predetermined value, and, when the determination is affirmative, controls the supply means during non-recording time so that ink is supplied.

Claim 4 (Original): The ink jet recording apparatus of claim 3, wherein the predetermined value corresponds to an amount of ink which can be supplied during non-recording time without interrupting recording.

Claim 5 (Original): The inkjet recording apparatus of claim 3, wherein the predetermined value is no more than an upper limit of the ink remaining in the ink tank.

Claim 6 (Original): The inkjet recording apparatus of claim 1, wherein the lower limit is an amount of ink which can be used for a predetermined amount of printing.

Claim 7 (Currently Amended): An ink jet recording apparatus comprising:
an ink jet recording head including an ink tank to which ink is supplied, the inkjet recording head printing by jetting the ink from the ink tank in accordance with image information in a print job;

remaining ink amount detecting means for detecting ~~the amount~~ an amount of ink remaining in the ink tank at predetermined time intervals and outputting an empty signal indicating shortage of ink when the ~~ink amount~~ amount of ink is no more than a lower limit;

ink supply means including a main tank for storing ink, the ink supply means supplying ink from the main tank to the ink tank in response to the empty signal outputted from the remaining ink amount detecting means; and

control means for controlling the ink supply means such that, when the remaining ~~ink amount~~ amount of ink detected by the remaining ink amount detecting means is above the lower limit, ink is supplied to the ink tank in an amount corresponding to the amount of ink used.

Claim 8 (Original): The inkjet recording apparatus of claim 7, wherein the control means controls the ink supply means such that ink is supplied to the ink tank when the print job is not being printed.

Claim 9 (Withdrawn): The ink jet recording apparatus of claim 7, wherein the remaining ink amount detecting means detects the amount of ink remaining in the ink tank over a first time interval until the ink amount reaches a predetermined amount larger than the lower limit, and detects the remaining ink amount over a second time interval, which is shorter than the first time interval, after the ink amount has reached the predetermined amount.

Claim 10 (Withdrawn): The ink jet recording apparatus of claim 7, wherein the remaining ink amount detecting means detects the remaining ink amount for every predetermined number of printed pixels, the predetermined number of printed pixels being smaller than the number of pixels which can be printed after the empty signal is outputted.

Claim 11 (Withdrawn): The ink jet recording apparatus of claim 7, wherein, when the print job is not being printed, the remaining ink amount detecting means controls the amount of ink remaining in the ink tank by the number of pixels corresponding to the amount of ink jetted from the ink jet recording head and detects the remaining ink amount when the number of pixels exceeds a predetermined number.

Claim 12 (Withdrawn): The ink jet recording apparatus of claim 7, wherein the remaining ink amount detecting means detects the remaining ink amount again after ink has been supplied to the ink tank by the ink supply means in response to the empty signal outputted from the remaining ink amount detecting means, and, when the remaining ink amount detecting means outputs the empty signal again, the control means outputs a main tank empty signal indicating that the main tank is empty.

Claim 13 (Withdrawn): The ink jet recording apparatus of claim 7, further comprising storage means for storing a number of pixels corresponding to the amount of ink jetted from the ink jet recording head, wherein the remaining ink amount detecting means detects the remaining ink amount again after ink has been supplied to the ink tank by the ink supply means in response to the empty signal outputted from the remaining ink amount detecting means, and, when the remaining ink amount detecting means outputs the empty signal again, the control means compares the number of pixels stored in the storage means with the number of pixels corresponding to the amount of ink filled in the main tank and outputs, when the numbers are the same or close to each other, a main tank empty signal indicating that the main tank is empty.

Claim 14 (Withdrawn): An ink jet recording apparatus comprising:

an ink jet recording head including an ink tank to which ink is supplied, the ink jet recording head printing by jetting the ink from the ink tank in accordance with image information in a print job;

remaining ink amount detecting means for detecting the amount of ink remaining in the ink tank over a first time interval until the ink amount reaches a predetermined amount larger than a lower limit, and for detecting the ink amount over a second time interval, which is shorter than the first time interval, after the ink amount has reached the predetermined amount, and outputting an empty signal indicating shortage of ink when the ink amount is no more than the lower limit; and

ink supply means including a main tank for storing ink, the ink supply means supplying ink from the main tank to the ink tank in response to the empty signal outputted from the remaining ink amount detecting means.

Claim 15 (Withdrawn): An ink jet recording apparatus comprising:

an ink jet recording head including an ink tank to which ink is supplied, the ink jet recording head printing by jetting the ink from the ink tank in accordance with image information in a print job;

remaining ink amount detecting means for detecting the remaining ink amount for every predetermined number of printed pixels, which number of printed pixels is smaller than the number of pixels which can be printed after an empty signal indicating shortage of ink is outputted, and outputting the empty signal when the ink amount is no more than a lower limit; and

ink supply means including a main tank for storing ink, the ink supply means supplying ink from the main tank to the ink tank in response to the empty signal outputted from the remaining ink amount detecting means.

Claim 16 (Withdrawn): An ink jet recording apparatus comprising:

an ink jet recording head including an ink tank to which ink is supplied, the ink jet recording head printing by jetting the ink from the ink tank in accordance with image information in a print job;

remaining ink amount detecting means for controlling, when the print job is not being printed, the amount of ink remaining in the ink tank by a number of pixels corresponding to the amount of ink jetted from the ink jet recording head, and for detecting the remaining ink amount when the number of pixels exceeds a predetermined number, and outputting an empty signal indicating shortage of ink when the ink amount is no more than a lower limit; and

ink supply means including a main tank for storing ink, the ink supply means supplying ink from the main tank to the ink tank in response to the empty signal outputted from the remaining ink amount detecting means.

Claim 17 (Withdrawn): An ink jet recording apparatus comprising:

an ink jet recording head including an ink tank to which ink is supplied, the ink jet recording head printing by jetting the ink from the ink tank in accordance with image information in a print job;

remaining ink amount detecting means for detecting the amount of ink remaining in the ink tank at predetermined time intervals and after the ink is supplied, and outputting an empty signal indicating shortage of ink when the remaining ink amount is no more than a lower limit;

ink supply means including a main tank for storing ink, the ink supply means supplying ink from the main tank to the ink tank in response to the empty signal outputted from the remaining ink amount detecting means; and

control means which outputs a main tank empty signal indicating that the main tank is empty, when the remaining ink amount detecting means detects the ink amount remaining after ink supply and outputs the empty signal.

Claim 18 (Withdrawn): An ink jet recording apparatus comprising:

an ink jet recording head including an ink tank to which ink is supplied, the ink jet recording head printing by jetting the ink from the ink tank in accordance with image information in a print job;

storage means for storing a number of pixels corresponding to the amount of ink jetted from the ink jet recording head;

remaining ink amount detecting means for detecting the amount of ink remaining in the ink tank at predetermined time intervals and after ink supply, and outputting an empty signal indicating shortage of ink when the remaining ink amount is no more than a lower limit; and

control means for comparing, when the remaining ink amount detecting means detects the remaining ink amount after the ink is supplied and outputs the empty signal, the number of pixels stored in the storage means with the number of pixels corresponding to the amount of ink filled in the main tank and outputting, when the numbers are the same or close to each other, a main tank empty signal indicating that the main tank is empty.

Claim 19 (New): An ink jet recording apparatus comprising:

a recording head including an ink tank for storing ink, the recording head being driven and controlled based on image information so as to jet onto a recording medium ink supplied from the ink tank, wherein the image information is a number of printed pixels;

detecting means for detecting an amount of ink remaining in the ink tank;

supply means including a main tank for storing ink, the supply means supplying ink from the main tank to the ink tank when the recording head is disposed at an ink supplying position; and

control means for controlling the supply means so that, when the remaining amount of ink detected by the detecting means is above a lower limit, ink is supplied during non-recording time in an amount corresponding to the number of printed pixels.

Claim 20 (New): The ink jet recording apparatus of claim 19, wherein the control means estimates, based on the image information, the amount of ink used.

Claim 21 (New): The ink jet recording apparatus of claim 19, wherein the control means determines whether or not the amount of ink used exceeds a predetermined value, and, when the determination is affirmative, controls the supply means during non-recording time so that ink is supplied.

Claim 22 (New): The ink jet recording apparatus of claim 21, wherein the predetermined value corresponds to an amount of ink which can be supplied during non-recording time without interrupting recording.

Claim 23 (New): The inkjet recording apparatus of claim 21, wherein the predetermined value is no more than an upper limit of the ink remaining in the ink tank.

Claim 24 (New): The inkjet recording apparatus of claim 19, wherein the lower limit is an amount of ink which can be used for a predetermined amount of printing.

Claim 25 (New): An ink jet recording apparatus comprising:

an ink jet recording head including an ink tank to which ink is supplied, the inkjet recording head printing by jetting the ink from the ink tank in accordance with image information in a print job, wherein the image information is a number of printed pixels;

remaining ink amount detecting means for detecting an amount of ink remaining in the ink tank at predetermined time intervals and outputting an empty signal indicating shortage of ink when the amount of ink is no more than a lower limit;

ink supply means including a main tank for storing ink, the ink supply means supplying ink from the main tank to the ink tank in response to the empty signal outputted from the remaining ink amount detecting means; and

control means for controlling the ink supply means such that, when the remaining amount of ink detected by the remaining ink amount detecting means is above the lower limit, ink is supplied to the ink tank in an amount corresponding to the number of printed pixels.

Claim 26 (New): The inkjet recording apparatus of claim 25, wherein the control means controls the ink supply means such that ink is supplied to the ink tank when the print job is not being printed.

Claim 27 (New): The ink jet recording apparatus of claim 19, wherein the control means determines whether the number of printed pixels exceeds a predetermined number of pixels, and, when the determination is affirmative, controls the supply means during non-recording time so that ink is supplied.

Claim 28 (New): The inkjet recording apparatus of claim 19, wherein the control means calculates a percentage of an ink amount corresponding to the number of printed pixels and controls the supply means to supply the percentage of the ink amount.

Claim 29 (New): The image recording apparatus of claim 28, wherein the percentage of the ink amount is in a range of 60 percent to 95 percent of the ink amount corresponding to the number of printed pixels.